

# PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) IMPROVEMENTS IN OR RELATING TO GULLIES

(71) We, THE HEPWORTH IRON COMPANY LIMITED, a British Company of Hazelhead, Nr. Sheffield, do hereby declare the invention, for which we, pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to gullies, more particularly for rainwater and surface-water systems of buildings, and has for its object the provision of a gully adaptable to various layouts in rainwater and surface-water systems.

According to the present invention, a gully hopper comprises a hopper portion converging into an outlet portion, with a ledge inside the mouth of the hopper portion, and at least two top members fitting closely into the hopper mouth and resting on the ledge, at least one of the top members having one or more openings for the passage of water into the hopper, and the outside of the outlet portion being provided with three laterally projecting tubular bosses, two diametrically opposed to each other and the third mutually perpendicular to the other two. One of the top members may be a grid and another may be provided with one or more holes, to receive the lower end of a fall pipe or pipes of a rainwater system — but in some circumstances it may be that one or more of the top members has no openings at all, the other being a grid, for surface water, or having one or more holes to receive one or more fall pipes — the top members being interchangeable so that a single design of gully hopper can be suited to a variety of layouts. The three laterally projecting tubular bosses on the outside of the outlet portion determine positions for forming one or more openings on site and connecting into the outlet one or more horizontally (or substantially horizontally) approaching pipe-lines, regardless of the relative positions of the top members fitting the hopper mouth.

The hopper mouth is preferably square or rectangular, the top members being corre-

spondingly rectangular or square, to suit. The outlet is preferably of circular cross-section, so as to be suitable for fitting into a socket of a drain pipe or — in accordance with a further feature of the invention into the inlet of a trap, to form a trapped gully, and the lateral outlet of the trap may be orientated in any desired direction with respect to the vertical axis of the gully. The trap itself may be adapted to receive a grid, a fall pipe, or a soil pipe directly in its inlet, for use without the gully hopper, to form a simple trapped gully, but this of itself does not form part of the present invention.

The invention lends itself to the manufacture of all the parts in synthetic plastics material, say by injection-moulding, with a substantially uniform thickness in each part, though an appreciably lesser thickness may be suitable for the top members than in the hopper and outlet portion, or in the trap, especially if — as is preferred — the top members are flanged downwardly all the way round, or if any openings in the top members (especially in a grid) are flanged all round, or strengthened by integral ribs.

One embodiment of gully hopper and trap will now be described, by way of example only, with reference to the accompanying drawings, in which

Figure 1 is a plan of the gully hopper with two top members in place;

Figure 2 is a part elevational vertical section of the gully hopper;

Figure 3 is a vertical section of the trap; and

Figure 4 is a vertical section of a grid for fitting into the top of the trap in place of the gully hopper, but not forming part of the invention.

In Figures 1 and 2 a gully hopper 1 comprises a synthetic plastics moulding 2 with a rectangular hopper portion 3 merging into a circular outlet 4, the mouth 5 of the hopper being an enlargement, both externally and in-

ternally, with the internal shoulder 6 between the main part of the hopper and the mouth forming a ledge on which rest top members 7, 8 also formed as synthetic plastics mouldings. The top member 7 has slots 9 in a centrally-recessed portion to form a grid for surface-water to enter the hopper, and the top member 8 has a circular hole 10 to receive the lower end of a fall pipe (not shown) of a rainwater system. The top members are flanged downwardly all the way round, and the slots 9 in the top member 7 are flanged all round, to strengthen the top members.

The outside of the outlet 4 is formed with three integral tubular bosses 11 for determining the positions for forming one or more openings on site and connecting thereto one or more horizontally approaching pipe-lines (not shown). As the top members 7, 8, are interchangeable, the bosses 11 enable any pair of (or — though more unlikely — three) horizontally approaching pipe-lines to be connected into the outlet 4 regardless of the relative positions of the top members. The top members are also interchangeable with similar members (not shown) to afford different arrangements or sizes of openings. The rim of the hopper mouth may be turned in slightly along two or more sides, so that the top members snap into place, and are held secure yet can readily be sprung out again to afford access to the hopper or trap for removing accumulated debris, or for changing the layout of the top members.

In Figure 3 a trap 12 comprises two synthetic plastics mouldings 13, 14, the upper one 13 being formed with inlet and outlet legs 15, 16 respectively and an integral dividing wall 17, and the lower bowl-like part 14 having a rim 18 to be stuck or heat or solvent cement welded to a complementary rim 19 on the lower end of the upper moulding. The upper end 20 of the inlet leg 15 is enlarged to form a socket, in which a sealing ring 21 is housed, for sealing round the outlet 4 of the gulley hopper 1 or — if the gulley hopper is not used in combination with the trap — for securing a grid 22 in the mouth of the inlet leg. The grid 22 — which is also formed

as a synthetic plastics moulding — does not form part of the invention.

The outlet leg 16 of the trap is formed with an enlargement 23 forming a socket, which is also provided with a sealing ring 24 for sealing round the spigoted end of a soil pipe or drain pipe (not shown).

#### WHAT WE CLAIM IS:—

1. A gulley hopper comprising a hopper portion converging into an outlet portion, with a ledge inside the mouth of the hopper portion, and at least two top members fitting closely into the hopper mouth and resting on the ledge, at least one of the top members having one or more openings for the passage of water into the hopper, and the outside of the outlet portion being provided with three laterally projecting tubular bosses, two diametrically opposed to each other and the third mutually perpendicular to the other two.

2. A gulley hopper as in Claim 1, wherein one of the top members is a grid.

3. A gulley hopper as in Claim 1 or Claim 2, wherein one of the top members has one or more holes, to receive the lower end of a fall pipe or pipes of a rainwater system.

4. A gulley hopper as in any one of Claims 1 to 3, wherein the hopper mouth is square or rectangular, the top members being correspondingly rectangular or square, to suit.

5. A gulley hopper as in any one of Claims 1 to 4 wherein the outlet is of circular cross-section.

6. A gulley hopper as in Claim 5, wherein the outlet is fitted into the inlet of a trap, to form a trapped gulley.

7. A gulley hopper as in any one of Claims 1 to 6, manufactured in synthetic plastics material.

8. A gulley hopper substantially as hereinbefore described with reference to Figures 1 and 2 of the accompanying drawings.

9. A trapped gulley comprising a gulley hopper and trap substantially as hereinbefore described with reference to Figures 1 to 3 of the accompanying drawings.

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COMPLETE SPECIFICATION

2 SHEETS

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Sheet 1

FIG. 1

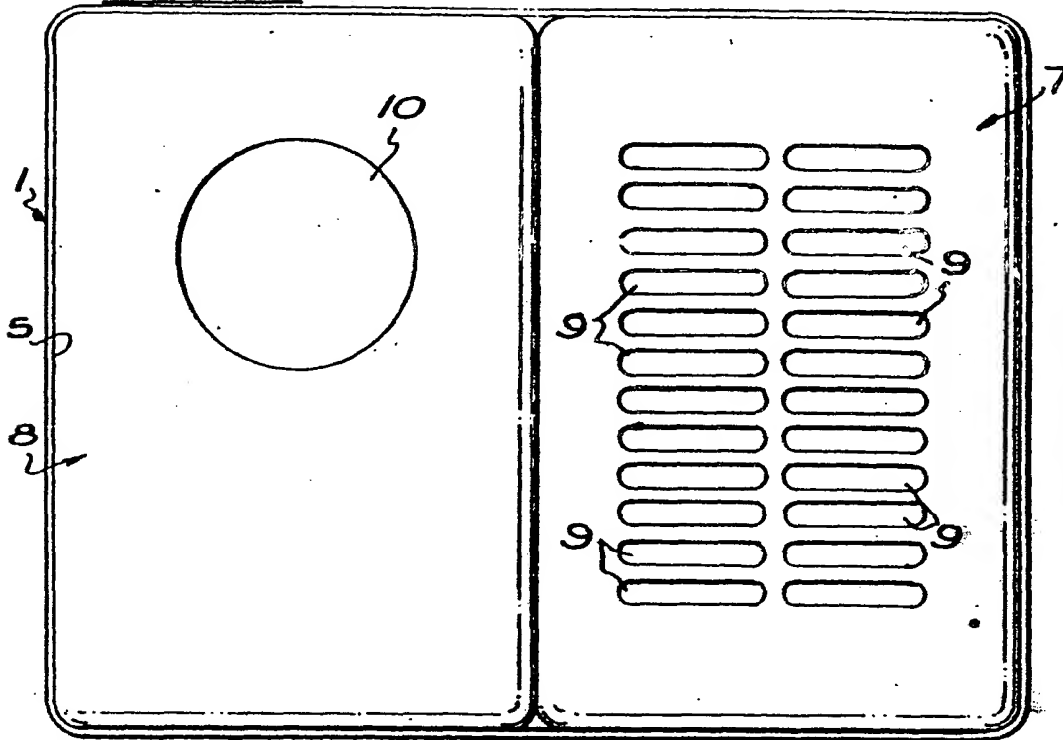
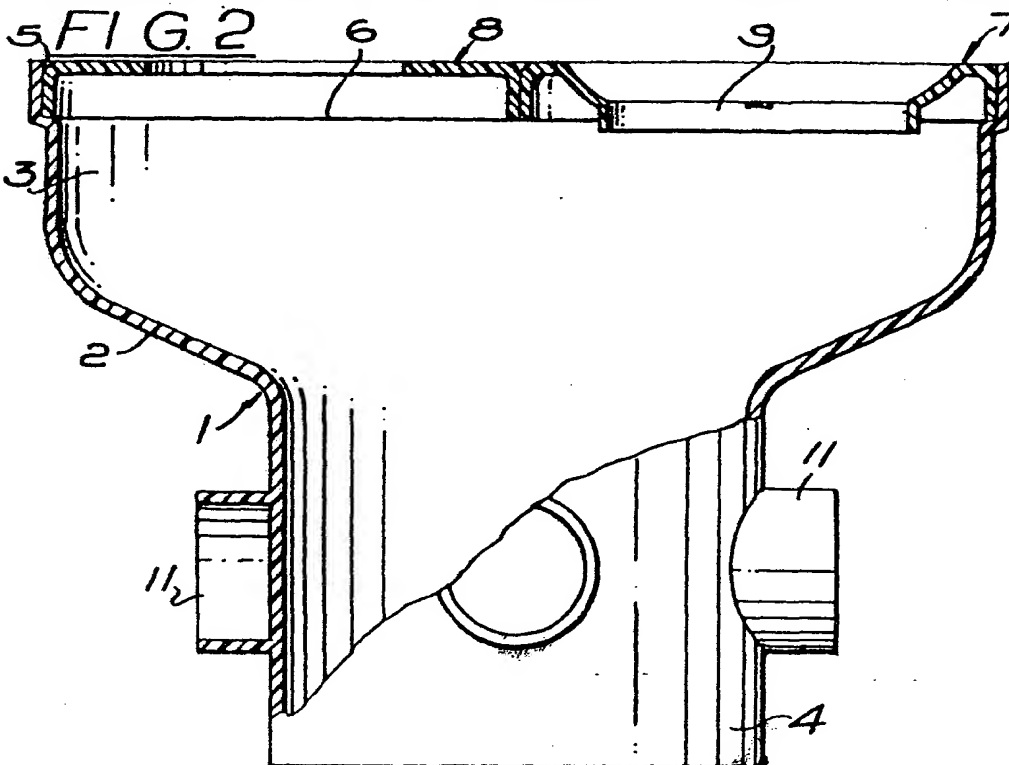


FIG. 2



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Sheet 2

